

## WHEEL-LIKE WIRE HOLDER

### BACKGROUND OF THE INVENTION

#### 1. Field of the Invention

5 [0001] The present invention relates to a wheel-like wire holder for holding a live high-voltage wire at ~~its~~an isolating ~~center~~central space, which is inaccessible to any surrounding wire or parts.

#### 2. Related Art

10 [0002] In a certain electric appliance such as a television receiver, a plurality of electric wires are used to apply electromotive force of high-frequency and/or high-voltage to some selected parts, and then such live wires need to be ~~so~~ isolated from surrounding electric wires and parts so that no adverse effects or interference may be caused thereon. To assure that such—a live high-voltage or high-frequency ~~wire~~be ~~wires~~are kept apart from the surrounding wires and parts, a variety of wire holders are used. One example of such a wire holder is shown in JP 5-85082(U), titled “Electric Wire Holder”.

15 [0003] ~~The~~ This wire holder looks like a wheel, comprising a ring, a ~~center~~central hub, and two bifurcate spokes and one split-spoke connecting the ~~center~~central hub to the ring. The central ~~center~~ hub defines a central ~~center~~ space to allow a high-voltage lead wire to fit ~~in~~therein, and the ring cuts off access to the high-voltage lead wire, which is press-fitted in the central ~~center~~ hub. The central ~~center~~ hub consists of three solid cylinders arranged circularly and separated an equi-angular distance from each other. The two bifurcate spokes and the split-spoke connect each two adjacent cylinders to ~~the~~an inner circumference of the ring. The ring has a cut to define a loophole. The split-spoke connects selected two adjacent cylinders to the confronting edges of the loophole, thus defining a radial passage to the hub space. Specifically, the radial passage is defined by ~~the~~ confronting, ~~outward~~diverging ~~outwardly~~diverging radial pieces of the split-spoke, thereby allowing an electric lead wire to follow the radial passage and fit in the hub space.

20 [0004] Referring to fig.4, such a wire holder 3 holds an anode lead wire 2 extending to a flyback transformer 1, thereby preventing any surrounding wire from coming close to the ~~this~~ live high-voltage lead wire 2. The anode lead wire 2 is inserted from ~~the~~ loophole 4 ~~to~~into ~~the~~central ~~center~~ hub space 5. Disadvantageously, however, ~~this~~ the wire holder structure, ~~however~~, permits another lead wire to invade through the loophole 4 and come close to the high-voltage wire 2. Still disadvantageously, the wire holder can ~~be~~ easily slide along the high-voltage lead wire 2, and thus, it

cannot make sure to keep guarantee that an isolating central center space which is inaccessible to any surrounding wire.

[0005] With a view to keep a nearby wire apart from the live high-voltage lead wire, if the nearby wire is bounded to the ring with a binding wire. The This binding work, however, is troublesome, and the unbinding is troublesome, too. The use Use of binding wires increases the cost.

[0006] In view of the above one object of the present invention is to provide a wheel-like wire holder which is capable of keeping the a high-voltage wire apart from the its surroundings surrounding, and of holding another lead wire apart from the high-voltage wire.

## 10 SUMMARY OF THE INVENTION

[0007] To attain this object a wheel-like wire holder comprises a ring, a central center hub, and a plurality of spokes connecting the central center hub to the ring, the center. The central hub defining defines a center-central space to allow a high-voltage lead wire to fit in, therein. This wire holder is improved according to the present invention in that the ring and hub have cuts on their circumferences, these which cuts being are connected by two spokes to define a radial passage for the central center space to communicate with the outside, the an exterior of the ring. The cut of the ring being is adapted to be open and closed, and the ring having has an extra space defined next to the cut for accommodating another lead wire inside, the thereinside. The extra space being is also adapted to be open and closed, also.

[0008] The central center space of the central center hub and the radial passage may form a loophole defined by the opposite ends of the two spokes radially extended toward the ring, with one of these spokes reaching short of the ring and being bent to provide a sub-spoke, which is connected the ring to define the extra space, whereas the other spoke being is connected to the ring and having has a barrier piece projecting toward the extra space, thereby blocking access to the central center hub.

[0009] The ring may have fastening pieces formed on the confronting ends of the its cut to close and open the loophole.

[0010] Other objects and advantages of the present invention will be understood from the following description of a wheel-like wire holder according to one preferred embodiment of the present invention, which is shown in accompanying drawings.

## 30 BRIEF DESCRIPTION OF THE DRAWING DRAWINGS

[0011] Fig.1 illustrates a wheel-like wire holder according to the present invention with its

loophole open;

[0012] Fig.2 illustrates the wheel-like wire holder with its loophole closed;

[0013] Fig.3 illustrates the wheel-like wire holder with a high-voltage lead wire fit thereto, and some lead wires contained in thean extra space; and

5 [0014] Fig.4 illustrates a conventional wheel-like wire holder as holding thean anode lead wire in thea television receiver.

## DETAILED DESCRIPTION OF PREFERRED EMBODIMENT

[0015] Referring to Fig.1, a wheel-like wire holder according to one embodiment of the present invention comprises a ring 11, a central center-hub 12, and a plurality of spokes 13,13; 14a, 14b and 15a and 15b. These spokes connect the centercentral hub 12 to the ring 11. The spokes 14a and 14b somewhat diverge outwardoutwardly to define a sector space 16 therebetween. Likewise, the spokes 15a and 15b somewhat diverge outwardoutwardly to define a sector space 17 therebetween. As seen from the drawing, these sector spaces 16 and 17 extend radially from the centercentral hub space 23 to the ring 11. The central center-hub space 23 and the sector space 17 forms form a loophole defined by theopposite ends of the two spokes 15a, 15b radially extended toward the ring. The ring 11 is cut at two points between the spokes 14a and 14b, as well as between the spokes 15a and 15b, respectively, so that the sector spaces 16 and 17 are communicated with the outsidean exterior of the ring.

20 [0016] The central center-hub space 23 communicates with the sector space 17, and the sector space 17 increases or decreases with deformation of the hub space 23. Likewise, the other sector space 16 varies in size. The spoke 15a reaches short of the ring 11, and is bent to provide a sub-spoke 18, which is connected to the ring 11 to define a generally triangular or extra space 19 between the sub-spoke 18 and the ring 11.

25 [0017] The other spoke 15b is connected to the ring 11. Thus, the spokes 15a and 15b define a radial passage accessible from the outsideexterior of the ring 11 to the central center-space 23. Also, the spoke 15b has a barrier piece 20 projecting toward the extragenerally triangular space 19, thereby cutting off access to the centercentral hub space 23. The ring 11 has fastening pieces 21 and 22 formed on the confronting ends of the cut to close and open the loophole (23 and 17). The fastening pieces are a hook 21 and a projection 22 to engage with each other (see Figs.1 and 2).

30 [0018] Fig.2 shows the wheel-like holder with the sector space 17 closed and with the other sector space 16 open. In thea closing position the fastening pieces 21 and 22 are caught by each other.

Referring to Fig.3, the extra-generally triangular space 19 is closed with other wires 25 contained therein. Such extra wires 19-25 cannot come close to the-a high-voltage wire 24 at the central center hub space 23.

[0019] A-This high-voltage lead wire 24 is inserted from the loophole of the ring 11 to follow the sector passage 17 to the central center hub space 23. Referring to Fig.3 again, the high-voltage lead wire 24 is press-fitted in the hub space 23, and the loophole is closed to change a shape of the hub 12-in-shape, thereby reducing the central center hub space 23 to tightly hold the high-voltage lead wire 24. Thus, the wheel-like wire holder is firmly fastened to the high-voltage lead wire 24, and it cannot slide along the-a surface of the high-voltage lead wire. Some nearby Nearby lead wires 25 are confined in the extra-generally triangular or extra space 19.

[0020] The wheel-like wire holder provides advantages as follows:

no lead wires are allowed to come close to the-a high-voltage lead wire once confined in the hub space;

the access to the central center hub space is blocked by the barrier piece, thereby preventing the inadvertent insertion of another lead wire into the central center hub space while it is being put in into the extra-generally triangular or extra space 19; and

closure of the loophole with the fastening pieces caught together causes the high-voltage lead wire to be tightly squeezed in the central center hub space, thereby assuring that the wire holder be-is prevented from sliding along and departing from the high-voltage lead wires wire.

## ABSTRACT OF THE DISCLOSURE

To firmly hold a high-voltage wire ~~keeping apart from the surrounding its surroundings~~, and hold some nearby lead wires apart from the high-voltage wire, a wheel-like wire holder includes a ring, a central center hub, and a plurality of spokes connecting the central center hub to the ring, the center. The central hub defining defines a central center space to allow a high-voltage lead wire to fit in therein, wherein the ring and hub have cuts on their circumferences, these which cuts being are connected by two spokes to define a radial passage for the central center space to communicate with the outside, the an exterior of the ring. The cut of the ring being is adapted to be open and closed, and the ring having has an extra space defined next to the cut for accommodating another lead wire inside thereinside, with the extra space being adapted to be open and closed.